

**Supplementary Table 3.** Correlation coefficients between all the 6,328 pairwise whole-genome comparison results and MLSA phylogenetic similarities. In all cases correlation coefficients are significant, with significance levels of 0.

	Correlation index	AN Ib	GGDC	TETRA	AN Im	MLSA
AN Ib	Pearson	1	0.940	0.635	0.976	0.917
	Kendall's tau	1	0.880	0.602	0.759	0.786
	Spearman's rho	1	0.971	0.775	0.900	0.933
GGDC	Pearson	0.940	1	0.495	0.985	0.766
	Kendall's tau	0.880	1	0.601	0.769	0.788
	Spearman's rho	0.971	1	0.767	0.902	0.928
TETRA	Pearson	0.635	0.495	1	0.567	0.650
	Kendall's tau	0.602	0.601	1	0.596	0.542
	Spearman's rho	0.775	0.767	1	0.754	0.717
AN Im	Pearson	0.976	0.985	0.567	1	0.838
	Kendall's tau	0.759	0.769	0.596	1	0.721
	Spearman's rho	0.900	0.902	0.754	1	0.873
MLSA	Pearson	0.917	0.766	0.650	0.838	1
	Kendall's tau	0.786	0.788	0.542	0.721	1
	Spearman's rho	0.933	0.928	0.717	0.873	1